

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 36-8739
Exam Date: 7/25/2007

1. Current Owner: ARKOOSH PRODUCE INC
PO BOX 3014
POCATELLO ID 83206-3014
(208)478-7978
2. Accompanied by: Rick Cantrell
Phone No: 208-536-6148
Address: 2930S 2300E Wendell ID 83355
Relationship to Permit Holder: Farm Manager for Luis Bettencourt—new owner (need ownership change)
3. **SOURCE**
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 36-10821B, (36-7054B and 36-7116D are for commercial and stock uses only and authorize irrigation as a secondary use)
2. Other water rights with the same point of diversion: 36-8740

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER SW1/4NE1/4 Sec. 30, Twp 07S, Rge 16E, B.M. GOODING County
Method of Determination: Site Visit/Imagery.

2. PLACE OF USE:

The only reason this permit was approved for processing in the moratorium area is because of pre-1987 development. There should be no new irrigated acres under this permit or 36-8740 so the place of use will be the same as what was historically irrigated. Right 36-10821B superseded rights 36-7810 through 36-7813. Right 36-7811 covered the land that this new permit covers, so I used the documentation/maps in file 36-7811 to determine the historic place of use and compared that against the current POU under 36-10821B and that is where the historical irrigated acre figures below come from. It appears that land outside the allowable place of use have been irrigated while some of the allowable acres were not. See below for a breakdown of acres irrigated under both 36-8739 and 36-8740.

	18 9/18	23 25.6/23	25 19/19
	8.4	25.6	19
20 19.1/20	6 39/39 33	23 39.3/33 10	23 34.1/29
	0.8	31.5	34.1
17 19.4/17	37 37.2/37	10 10.5/10	8.6/0
		3.2	8.6

**Acres Permitted Under
Permit 36-8740 Total of
127 acres**

**Acres Permitted Under
Permit 36-8739 Total of
118 acres**

**Actual Irrigated Acres under
36-8739 Total of 131.8 acres**

**Total Actual Acres Irrigated
Between Both Permits**

**Acres Historically Irrigated
(acres allowed to be
irrigated under these two
permits)**

Sec. 30 7S 16E

Method of Determination: Site visit and imagery

Overlap Analysis: 36-7054B and 36-7116D are for commercial and stock uses only and authorize irrigation as a secondary use. These rights are not being evaluated for historical use because they were transferred to the current place of use in 2002.

Right 36-10821B overlaps the place of use entirely. Approved transfer 4714 dated 10/2005 tied all 4 wells together under rights 36-7810 through 36-7813 into a common system after this permit was applied for—the original right of 36-7811 was for 1.36 cfs and 118 acres which would be 0.012 cfs/acre and the permit applied for 0.008 cfs/acre to equal the standard rate. Since the transfer was approved the rate per acre went from 0.012 cfs to 0.016, however the rate may be disproportionately distributed on other lands authorized under 36-10821B, so I will still recommend this get licensed for the full amount of 1 cfs.

I will recommend the place of use based on allowable acres and what was actually irrigated.

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
07S	16E	30			23.0	19			8.4	0.8					29.0	25.2	3.2		108.6

Total Acres: 108.6

23 acres were recommended in the **SWNE** since that is the historical amount irrigated in that 1/41/4

19 acres were recommended in the **SENE** since this was the amount found to be irrigated in that 1/41/4

8.4 acres were recommended in the **SENE** since this was the amount found to be irrigated in that 1/41/4

0.8 acres were recommended in the **NESW** since this was the total amount found to be irrigated in that 1/41/4

29 acres were recommended in the **NESE** since the total historical amount irrigated for that 1/41/4 was 33, but 4 acres were deducted since those are irrigated under 36-10821B in an adjacent field

25.2 acres were recommended in the **NWSE** since the total historical amount irrigated for that 1/41/4 was 33 and 7.8 acres of that are covered under 36-8740.

3.2 acres were recommended in the **SWSE** since the total historical amount irrigated for that 1/41/4 was 10 and 6.8 acres of that 10 are covered under 36-8740.

3.

<u>Well or Diversion</u> <u>ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge</u> <u>Size</u>
A0003744	RU Upthrust/Highthrust	100	R295400170H	LB Vertical	44903 (Back-up Well)
A0003743	Holloshaft B	200	CC1006903	Wel Line	LP96165 (Primary Well)

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

<u>Measurement</u> <u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
Panametrics			PT868			
Polysonic		Tyme-Flyte		150232		4/2007

2. Measurements: On 7/25/2007 the back-up well was inactive so no measurement was taken. The primary well averaged 1981.3 gpm or 4.41 cfs and the pivot averaged a total of 1028.83 gpm or 2.29 cfs

E. FLOW CALCULATIONS

 x Additional Computation Sheets Attached

Measured Method:

The system has a capacity of 2.29 cfs between the two pivots. The amount that will be recommended for licensing will be the amount requested of 1 cfs since the system is capable of this rate.

A measurement taken at the well using the polysonic gave a read-out of 1981.3 gpm or 4.41 cfs

The pivot known as the "east" pivot which is located in the SE1/4 of Sec 30 gave a 768.5 gpm read-out or 1.71 cfs.

The small pivot located in the NW1/4 of Sec 30 has a capacity of 260.33 gpm or 0.58 cfs.

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 108.6 \text{ acres} \times 4 = 434.4 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1 \times 231 \times 1.9835 = 458.2 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 434.4 \text{ af}$$

There will be a combined use limit that will specify the volume since it will be a combined limit with 36-10821B.

G. NARRATIVE/REMARKS/COMMENTS

The groundwater from the well is pumped directly into a holding pond where it is mixed with wastewater/runoff from the dairy. Once mixed the water is then pumped out to the fields for land application. There are three pumps located to the south of the pond. The pumps were covered heavily with brush and the pump specs were not visible.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	Volume: See combined use limits
IRRIGATION	03/15 to 11/15	1 CFS	
<u>Totals:</u>		1 CFS	

2. Recommended Amendments

☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Cherie Padilla Date _____

Reviewer cl Date 7/24/08

OUTER DIAMETER 12.8000 IN PERMIT# 36-8739 36-8740

PIPE MATERIAL CS,SS Well A0003743

WALL THICKNESS 0.2240 IN

INNER LINING ? NO LING.

KIND OF FLUID ? WATER

SENSOR MOUNTING ? U

TYPE OF SENSOR ? SMALL

DATA CHANGE ? NO

SPACING 10.115 IN U

MODE SELECT INPUT

OUTER DIAMETER 12.8000 IN

PIPE MATERIAL ER ? CS,SS

OUTER DIAMETER 12.8000 IN

PIPE MATERIAL ? CS,SS

WALL THICKNESS 0.2240 IN

INNER LINING ? NO LING.

OUTER DIAMETER 12.8000 IN

PIPE MATERIAL ? CS,SS

WALL THICKNESS 0.2240 IN

INNER LINING ? NO LING.

KIND OF FLUID ? WATER

SENSOR MOUNTING ? U

TYPE OF SENSOR ? SMALL

DATA CHANGE ? NO

SPACING 10.115 IN U

MODE SELECT DATA SET

DATA SET MODE ? PRINTER

10:18+ 1.955E 3GPM 00R
+ 5.236E 0FPS 00R
+00000 *10 G 00R
-00000 *10 G 00R

10:19+ 1.946E 3GPM 00R
+ 5.213E 0FPS 00R
+00199 *10 G 00R
-00000 *10 G 00R

10:20+ 2.021E 3GPM 00R
+ 5.413E 0FPS 00R
+00398 *10 G 00R
-00000 *10 G 00R

10:21+ 1.984E 3GPM 00R
+ 5.314E 0FPS 00R
+00595 *10 G 00R
-00000 *10 G 00R

10:22+ 1.939E 3GPM 00R
+ 5.193E 0FPS 00R
+00794 *10 G 00R
-00000 *10 G 00R

10:23+ 1.989E 3GPM 00R
+ 5.328E 0FPS 00R
+00987 *10 G 00R
-00000 *10 G 00R

10:24+ 1.930E 3GPM 00R
+ 5.170E 0FPS 00R
+01183 *10 G 00R
-00000 *10 G 00R

10:25+ 1.979E 3GPM 00R
+ 5.301E 0FPS 00R
+01385 *10 G 00R
-00000 *10 G 00R

10:26+ 1.989E 3GPM 00R
+ 5.328E 0FPS 00R
+01581 *10 G 00R
-00000 *10 G 00R

10:27+ 2.070E 3GPM 00R
+ 5.544E 0FPS 00R
+01779 *10 G 00R
-00000 *10 G 00R

10:28+ 1.966E 3GPM 00R
+ 5.265E 0FPS 00R
+01979 *10 G 00R
-00000 *10 G 00R

1,981.3gpm avg

total 19813 / 10 = 1981.3 gpm

OUTER DIAMETER
8.0201 IN

PIPE MATERIAL
? CS-SS

WALL THICKNESS
0.1902 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SENSOR MOUNTING
? U

SPACING
5.946 IN U

07-25 11:1900
+002.30 % AI2

0289.9 MMSEC
101.56 % T0

~~11:25+275.531E 00GPM 00R~~
~~+ 1.929E 0FPS 00R~~
~~+03014 *G 00R~~
~~-00000 *G 00R~~

11:26+254.397E 00GPM 00R
+ 1.781E 0FPS 00R
+00244 *G 00R
-00000 *G 00R

11:27+265.492E 00GPM 00R
+ 1.860E 0FPS 00R
+00504 *G 00R
-00000 *G 00R

11:28+261.002E 00GPM 00R
+ 1.827E 0FPS 00R
+00766 *G 00R
-00000 *G 00R

11:29+258.624E 00GPM 00R
+ 1.811E 0FPS 00R
+01032 *G 00R
-00000 *G 00R

11:30+266.549E 00GPM 00R
+ 1.866E 0FPS 00R
+01295 *G 00R
-00000 *G 00R

11:31+274.474E 00GPM 00R
+ 1.922E 0FPS 00R
+01548 *G 00R
-00000 *G 00R

11:32+266.021E 00GPM 00R
+ 1.863E 0FPS 00R
+01819 *G 00R
-00000 *G 00R

11:33+252.548E 00GPM 00R
+ 1.768E 0FPS 00R
+02078 *G 00R
-00000 *G 00R

11:34+264.172E 00GPM 00R
+ 1.850E 0FPS 00R
+02343 *G 00R
-00000 *G 00R

260.33
AVG 6PM

OUTER DIAMETER
8.0701 IN

PIPE MATERIAL
? CS-SS

WALL THICKNESS
0.1098 IN

INNER LINING
? NO LING.

KIND OF FLUID
? WATER

SPACING
5.861 IN U

07-25 12:0300
+003.10 % AI2

0297.3 MMSEC
101.35 % T0

12:06+785.383E 00GPM 00R
+ 5.206E 0FPS 00R
+00361 *G 00R
-00000 *G 00R

12:07+726.473E 00GPM 00R
+ 4.816E 0FPS 00R
+01139 *G 00R
-00000 *G 00R

12:08+779.043E 00GPM 00R
+ 5.164E 0FPS 00R
+01917 *G 00R
-00000 *G 00R

12:09+764.514E 00GPM 00R
+ 5.068E 0FPS 00R
+02695 *G 00R
-00000 *G 00R

12:10+762.136E 00GPM 00R
+ 5.052E 0FPS 00R
+03464 *G 00R
-00000 *G 00R

12:11+749.192E 00GPM 00R
+ 4.967E 0FPS 00R
+04243 *G 00R
-00000 *G 00R

12:12+788.289E 00GPM 00R
+ 5.226E 0FPS 00R
+05021 *G 00R
-00000 *G 00R

12:13+779.307E 00GPM 00R
+ 5.167E 0FPS 00R
+05795 *G 00R
-00000 *G 00R

12:14+734.926E 00GPM 00R
+ 4.872E 0FPS 00R
+06578 *G 00R
-00000 *G 00R

12:15+806.253E 00GPM 00R
+ 5.344E 0FPS 00R
+07356 *G 00R
-00000 *G 00R

12:16+778.515E 00GPM 00R
+ 5.160E 0FPS 00R
+08131 *G 00R
-00000 *G 00R

sum= 8454 gal
11 = 768.5
3PM



1



2

Photo 1: Metal tag ID for back-up well A0003744 that was not active at the time of site visit. I was informed this well will only be used in a situation where the primary well is not working.

Photo 2: Pump tag from the back-up well

HIGH THRUST

HP 100 RPM 3600 CYCLES

FRAME 405TP V 400 315

TYPE RU JET THRUST 0 HP 175 1/2

DESIGN B CODE H NEW B PART 100 315

TEMP. 60°C NISE SER. 215 HP 1775

SAG. SIZES 1120B 303741 1120B 303025

OIL CAPAC. 100 9 OIL 1120B 9

MODEL 2994-00-70-71 1120B 303025

U.S. ELECTRICAL MOTORS
 DIVISION OF INGERSOLL RAND CO.
 LOS ANGELES, CALIF. HARTFORD, CONN.



Photo 4: Back-up well



5



6

Photo 5: Back-up well

Photo 6: East pivot serving 36-8379. Picture taken facing south.



7



8

Photo 7: Small pivot serving 36-8739. Picture taken facing west.
Photo 8: Same small pivot



9



10

Photo 9: Southerly pivot serving 36-8740. Picture taken facing west.
Photo 10: Same pivot.

eline

Pump No. LP96165

STAGE 14 T. BOWL

ROTATION

CAUTION: READ INSTRUCTIONS BEFORE STARTING

LARNE & BOWLER INC.

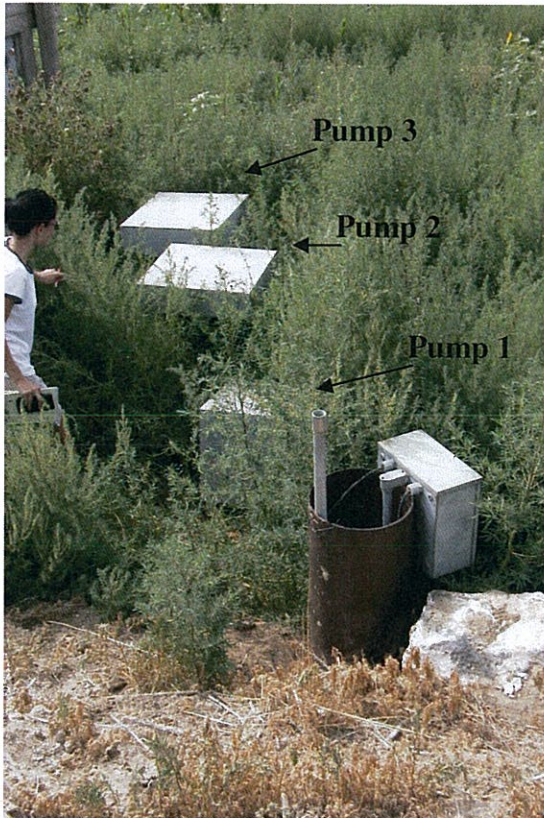
V-6 MOTORS

HOLLOSHAFT

PUMP MOTOR

208 4-51P 50 500 254
 R0 A G CLOS INSUL
 50 TO 100 50 1/2 1775
 75221 62.55
 CC1005905

Photo 12: Pump information from primary well A0003743



13



14

Photo 13: 3 different pumps to pivots. Picture is facing south. Pump 1 runs to the small pivot serving 36-8739. Pump 2 runs to the “east pivot” serving 36-8739. Pump 3 runs to the “south pivot” serving 36-8740.

Photo 14: 3 pumps on other side of power controls. Picture is facing west.

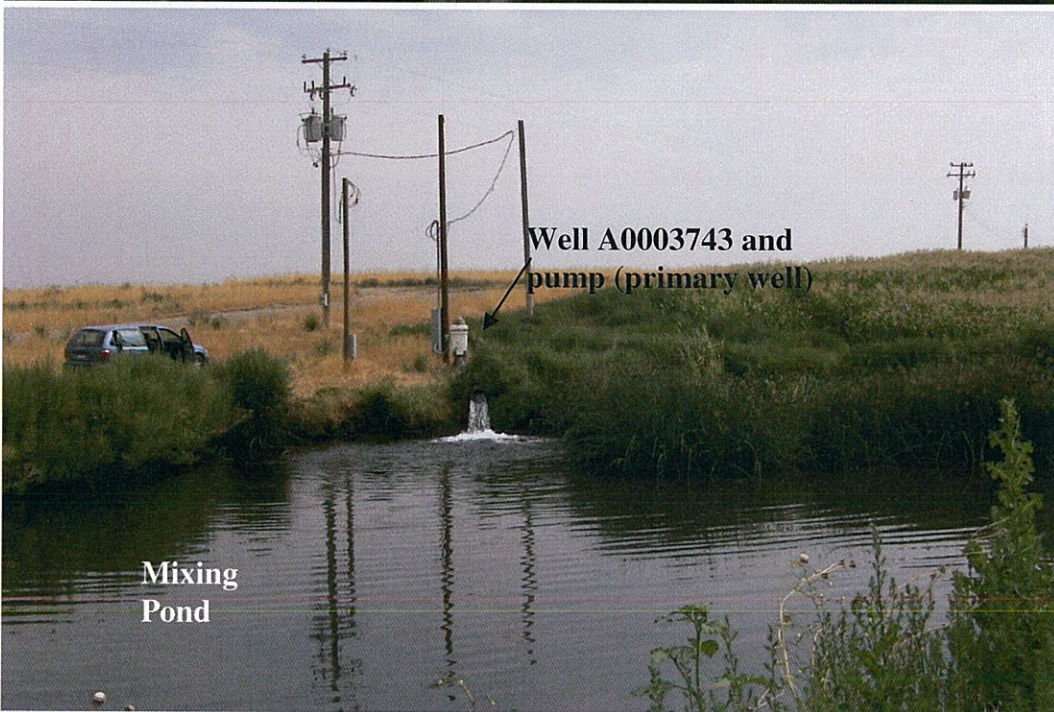
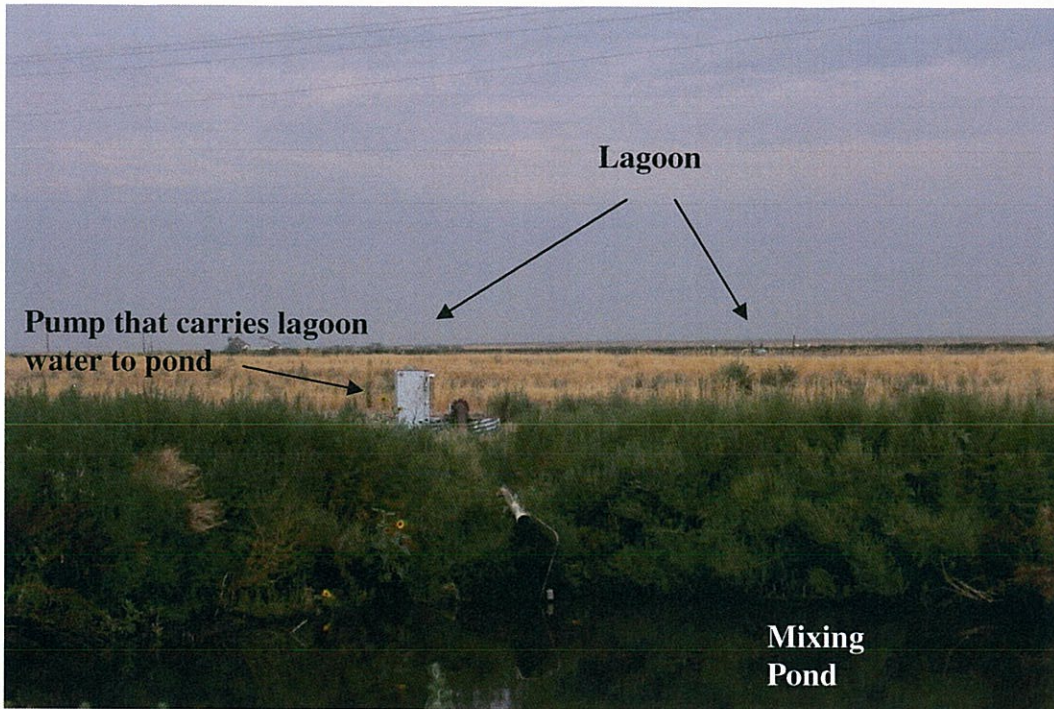
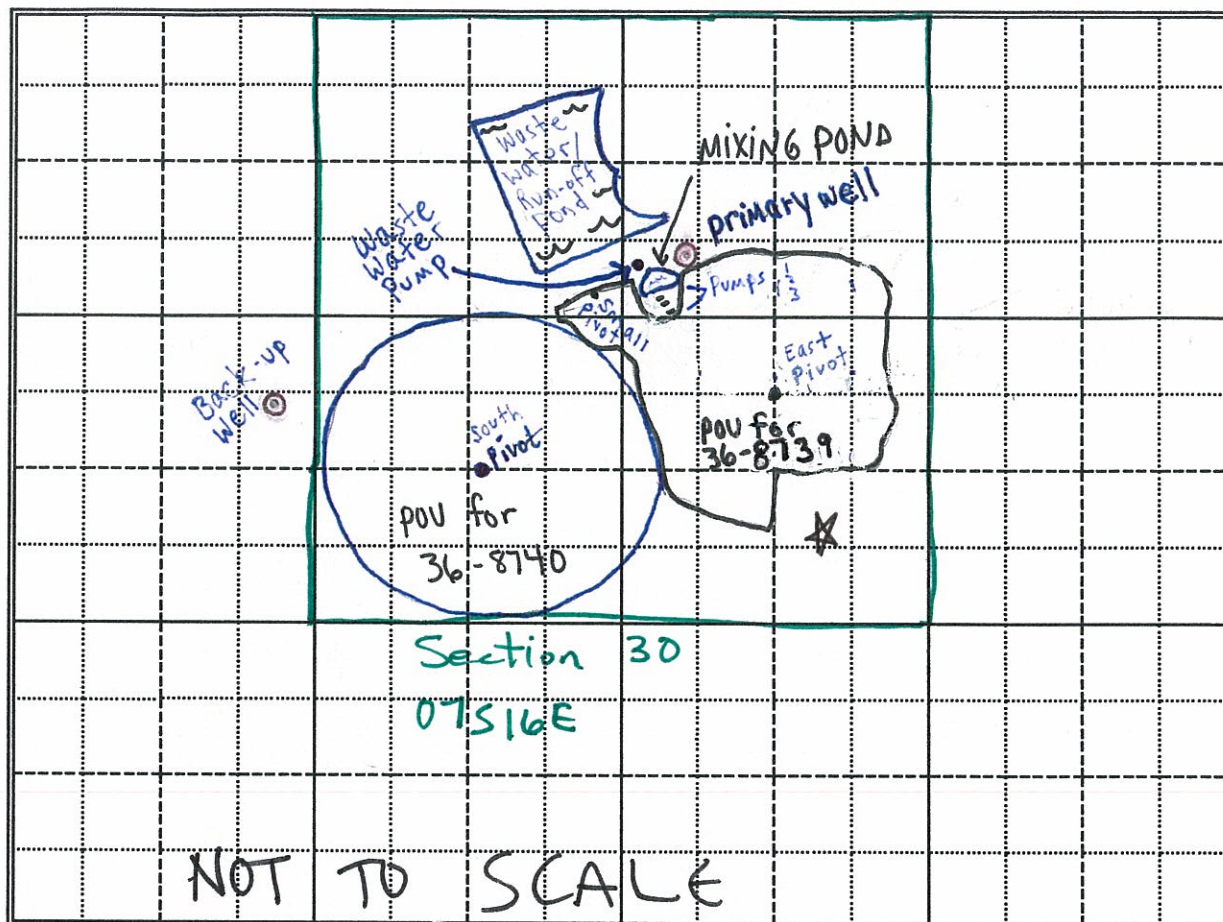


Photo 15: Picture was taken facing northwest. The pump brings in water from the lagoon on the other side of the road where it mixes with groundwater.
Photo 16: Picture was taken facing northeast. The capacity was measured to be 4.41 cfs. The water is dispensed into this mixing pond and then pumped out to fields once mixed with lagoon water.

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.



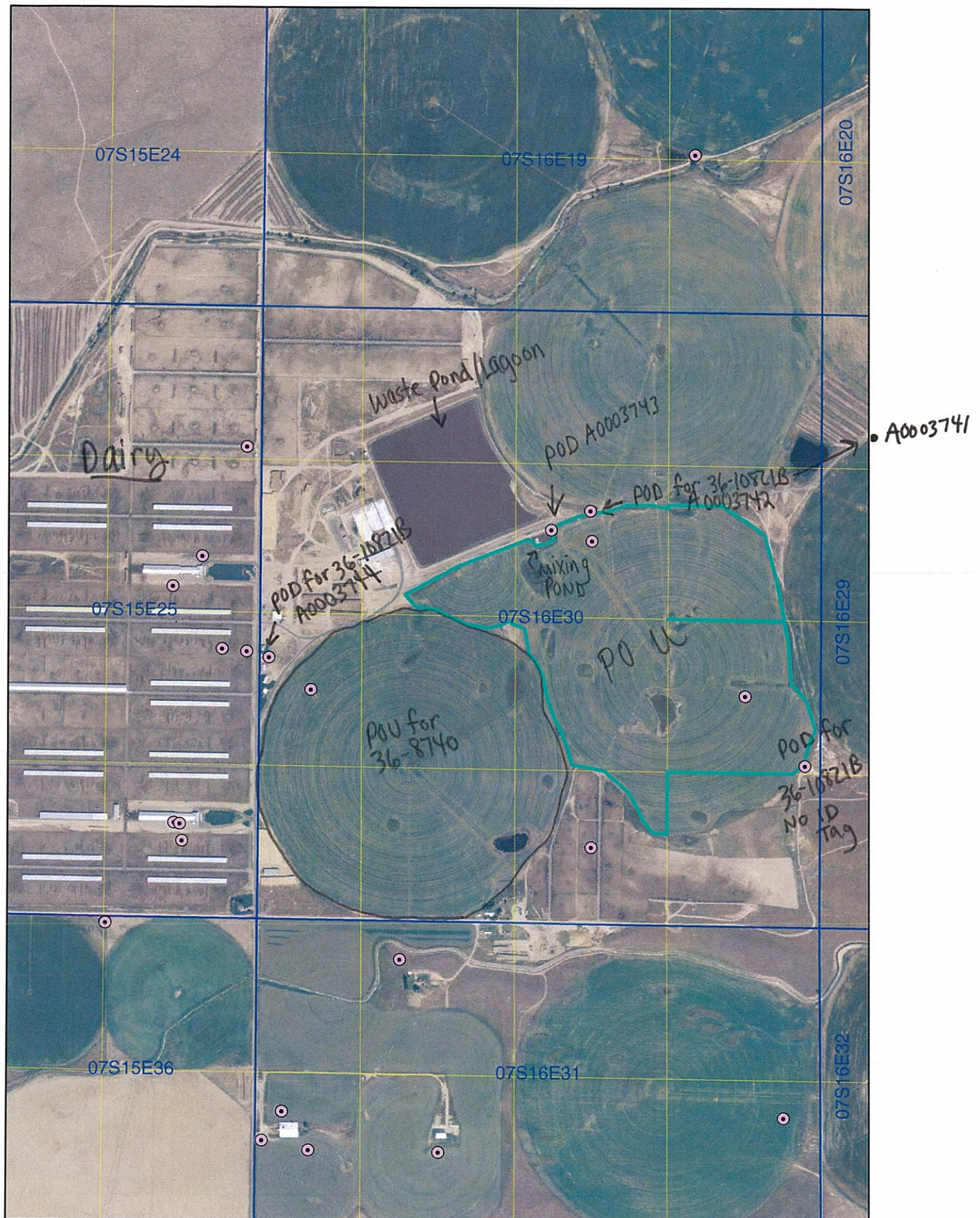
Pump#1 runs to small pivot serving 36-8739

Pump#2 runs to east pivot "

Pump#3 runs to south pivot serving 36-8740

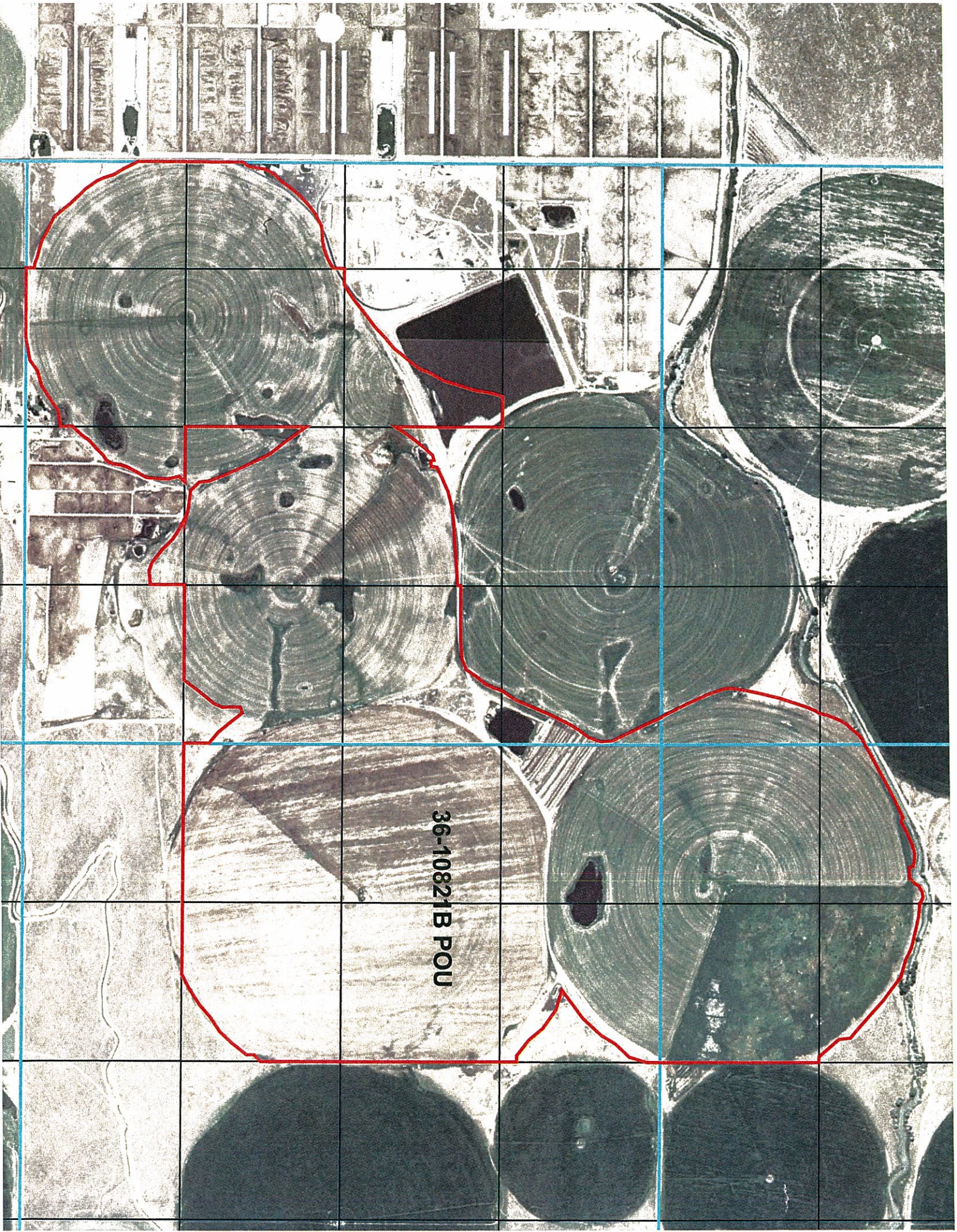
* There is 8.6 acres being irrigated in this 1/4 that is not authorized

POU and POD for 36-8739



Actual Irrigated Acres Under 36-8739





36-10821B POU

MEMORANDUM

To: Shelley Keen
Water Right Supervisor
State Office

Part of field
exam info.

From: Mel Schulte
Southern Region

MTA

CP

Date: March 15, 1995

Re: Aarkoosh & Zidan Permits 36-07809, 36-07810, 36-07811,
36-07812 & 36-07813 (now 36-10821B)

On March 13, 1995 I met with Jim Aarkoosh, Harry LeMoyne and Craig Moore to re-examine in the field the well locations and which pivot each well serves. In the process we also attempted to determine which of the Annubar measurements dated 5-13-1987 would logically relate to each well.

Using a well probe, I determined the static level in three of the wells and compared those measurements with the original well logs. Two wells showed a decline of about 20' and the third a drop of about five feet. Since the irrigation season has not started, we believe the aquifer level is at a low level at this time of year. Therefore, we compromised to estimate the level in the wells to be down about ten feet. I used this information to perform a theoretical estimate of what each pumping system could produce to use as a comparison of the measurements performed on 5-13-1987. Below is a summary of information obtained for each permit.

36-07809

P/D: SWNE, S30, 7S, 16E (SAME AS SHOWN ON LICENSE DATED 2-11-1995)

P/U: SAME AS SHOWN ON LICENSE DATED 2-11-1995

Measurement: Theoretical on 3-13-1995 of 2.62 cfs supports the 2.45 cfs Annubar measurement and the 2.45 cfs on the License dated 2-11-1995.

36-07810

P/D: NWSW (LT3), S30, 7S, 16E (SAME AS LICENSE DATED 2-11-1995)

P/U: SAME AS SHOWN ON LICENSED DATED 2-11-1995

Measurement: It is not clear which Annubar measurement relates to this system. A theoretical estimate on 3-13-1995 supports the 1.54 cfs on the License dated 2-11-1995. It is a mystery as to why the applicant applied for 1.54 cfs for 127 acres. The current owner indicated a desire to apply for additional water. It appears an error was made in the first filing and a second application

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would be moratorium exempt based on documentation in file that shows usage prior to inception of the SRBA.

36-07811

P/D: SWNE, S30, 7S, 16E (SAME AS LICENSE DATED 2-11-1995)

P/U: The acres specified in the 2-11-1995 total 103.2 acres. The Beneficial Use Field Report dated 5-13-1987 recommends 118 acres. The ASCS estimates 117.4 acres under the pivot and a 9.2 acre corner that are serviced by the well and system for this permit. I think this right is entitled to a total of 118 acres.

Measurement: It is not clear which Annubar measurement relates to this system but all measurements support the 1.36 cfs on the 2-11-1995 License. The theoretical estimate on 3-13-1995 of 2.64 cfs also supports the 1.36 cfs rate.

The owner indicated a desire to apply for additional water for this system which is justified on the basis that the rate requested by the previous owner and approved is insufficient to operate the pivot that has been in place since the permit was developed.

36-07812

P/D: NESE, S30, 7S, 16E (SAME AS LICENSE DATED 2-11-1995)

P/U: SAME AS LICENSE DATED 2-11-1995

Measurement: It appears the Annubar measurement of 2.07 cfs dated 5-13-1987 associated with this system is not the correct one for this system. A theoretical estimate on 3-13-1995 predicts a capacity of 7.11 cfs. A 400 hp motor and pump serves this system. Even if the system was valved back the pivot requires more than 2.07 cfs (929 gpm) to operate. The original system design (see attached copy) estimated a gallonage of 1400 gpm (3.12 cfs). I think this right is entitled to a diversion rate of 3.80 cfs (.02 cfs/acre) because the system is capable of producing that rate.

36-07813

P/D: NWNW, S29, 7S, 16E (SAME AS LICENSE DATED 2-11-1995)

P/U: SAME AS LICENSE DATED 2-11-1995

Measurement: It appears the Annubar measurement of 2.03 cfs dated 5-13-1987 associated with this system is not the correct one for this system. A theoretical estimate on 3-13-1995 predicts a capacity of 3.46 cfs. A 200 hp motor and pump serves this system. Even if the system was valved back the pivot requires more than 2.03 cfs (911 gpm) to operate. The original system design for the

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pivot alone (see attached copy) estimated a gallonage of 1300 gpm (2.90 cfs). I think this right is entitled to more than 2.03 cfs. I think a rate of 3.46 cfs based on the theoretical calculation is defensible.

Enclosed are copies of several documents relating to the information above. If you have any questions or need additional assistance on my part please let me know.

MTS

RECEIVED
APR 25 1995

